

**STAGE OF GROWTH FOR MOWING OR  
ROTATION GRAZING**

<b>Species</b>	<b>Harvest Periods</b>	<b>Rotation Grazing</b>	<b>Hay or Silage</b>	<b>Minimum Height After Cutting or Grazing</b>
Bluegrass	All	Begin when 4-5" high	Not generally Used as such	1-2"
Orchardgrass	First	Begin when about 8" high and again between boot-early head stage	Boot to early head stage	2-3"
	Second	After 8-10" recovery growth	After 8-10" recovery growth	2-3"
Smooth Brome grass	First	Before jointing and between medium to full head	Full head	2-3"
	Second and Later	Before jointing and again when new sprouts appear at soil surface	When basal sprouts appear at soil surface	2-3"
Timothy And Reed Canary-grass	First	Before jointing and between early to full head	Early head	2-3"
	Second And Later	Before jointing and again when new sprouts appear at soil surface	When basal sprouts appear at soil surface	2-3"
Alfalfa	First Second And later	Full bud ½ bloom or after a 5-6 week recovery Period	Full bud ¼ bloom or after a 5-6 week recovery period	1-2"

<b>Species</b>	<b>Harvest Periods</b>	<b>Rotation Grazing</b>	<b>Hay or Silage</b>	<b>Minimum Height After Cutting or Grazing</b>
Birdsfoot Trefoil (Upright Type)	First Second and Later	$\frac{1}{4}$ bloom $\frac{1}{4}$ bloom or after a 6-8 week recovery period	$\frac{1}{4}$ bloom $\frac{1}{4}$ bloom or after a 6-8 week recovery period	2-3"
Ladino Clover	First Second And Later	$\frac{1}{4}$ to $\frac{1}{2}$ bloom or 8-10" high. Rest for last grazing until $\frac{1}{4}$ to $\frac{1}{2}$ bloom and then graze after first hard freeze	$\frac{1}{4}$ to $\frac{1}{2}$ bloom or 8-10" High. Same as for grazing	2"
Red and Alsike Clover**	First	$\frac{1}{4}$ to $\frac{1}{2}$ bloom	$\frac{1}{4}$ to $\frac{1}{2}$ bloom	2"
	Second	$\frac{1}{4}$ bloom	$\frac{1}{4}$ bloom	2"

\*\* See Fact Sheet "Alsike Clover and Horses: A Caution" if pasture will be grazed by horses. Reference File (AGR) Pasture

### More Details on Grazing Heights

The degree to which a plant or pasture is grazed during a grazing event is referred to as the intensity of grazing. The greater the intensity of grazing, the greater the rate of forage utilization, and the greater the harvest efficiency. In a practical sense, grazing intensities are evaluated based on the relationship between pregrazing and postgrazing forage heights.

There are several different factors to be considered when establishing grazing heights. The most important factors include: the type of pasture plants, the time of year, and the production objectives of the livestock enterprise.

Pastures consisting of tall grasses (bromegrass, timothy, orchardgrass, reed canarygrass) and legumes (red clover, ladino clover, birdsfoot trefoil, etc.) should be grazed from an initial forage height of 8 to 10 inches down to a residual stubble height of 2 to 2.5 inches. This approximates a 68-80% apparent forage utilization. However, the time of year must also be taken into consideration.

In early spring, pasture growth rates are extremely high and, because the pastures have not yet been grazed, are fairly uniform across all of the grazing land. If forage heights are allowed to reach the 8 to 10 inch target heights prior to the first grazing, a large percentage of the pasture will be well past its prime quality in a very short period of time, and be so tall that much of it will be trampled and wasted.

As a means of reducing this problem, the first spring grazing should begin when forage heights reach about 4 to 5 inches and stop when the pasture is grazed down to a residual stubble height of about 1.5

inches. Grazing at this intensity helps create a staggered forage regrowth pattern and promotes a greater amount of new leaf development (tillering). This acts as a “conditioning process” that will help develop and maintain a leafy high quality pasture over a longer period of time.

Pastures that are comprised of mixtures and associations of bluegrass, redtop, ryegrass, fine-leaved fescues, sweet vernal grass, and wild white clover, should be grazed from initial forage height of 4 to 6 inches down to a residual stubble height of about 1.5 inches. Again, an exception to this occurs with the first grazing in the spring. At this time, these pastures should be grazed when they reach a height of about 3 inches and grazed down to a residual stubble height of about 1 inch.

Another exception to the recommended grazing heights concern grazing on wet soil conditions where punching or poaching the pasture could be a problem. In these situations, it is better to let the forage accumulate to a greater height prior to grazing and then leave a larger proportion of the forage in the pasture post grazing. Although this method will help protect the soil, it does reduce harvest efficiency, and will require that the pasture be clipped once the soil dries out.

Grazing heights may also need to be adjusted during periods of hot dry weather. At these times, it is best to leave a little more forage in the pasture to help insulate the soil from heat, and keep it from drying out.

Another important aspect of grazing heights has to do with the relationship between productivity per animal and productivity per acre of pasture. Generally, as a greater proportion of the forage in a pasture is utilized, production as measured on a per individual animal basis decreases. This is because the longer and closer livestock graze a pasture, the amount and quality of forage available for grazing declines. As a result, there is a reduction in per animal dry matter intake and, thus, performance on an individual animal basis is reduced.

However, to a point, increasing the amount of forage utilization increased production per acre. Even though production per animal may be lower, a greater number of animals may be supported, and as a result, a greater amount of the forage produced is converted into livestock production. Care must be exercised though, because when too much of the available forage is utilized, not only is there a reduction in production per animal, there is also a reduction in the amount of production per acre.

It is not possible to maximize production per animal and production per acre at the same time. As a result, a compromise must be reached that is consistent with the production objectives of the livestock enterprise. Because grazing heights are a primary controlling factor in the efficiency of pasture production and utilization, they can be extremely useful in guiding the compromise. For optimum animal performance, the previously recommended residual forage heights should be increased by approximately 50% and where maximizing production per acre is desired, residual forage heights should be reduced by approximately 25%. However, under general conditions the guidelines as they are presented, represent the most reasonable compromise to maintain both animal performance and efficient pasture utilization.

As a general rule, when in doubt as to whether a pasture should or should not be grazed, it is better to have a little more growth in the pasture and have the grass ahead of the livestock rather than graze too early and have the livestock ahead of the grass. However, do not wait too long, or forage quality will be compromised. The first sign that this is occurring can be found by looking at the tips of the oldest leaves on the plant (those near the bottom of the plant). When the tips of these leaves begin to turn yellow-brown, it is time to graze. When the tips of the youngest leaves (those near the top) begin to turn brown, it is well past time to graze.

Keep in mind that grazing management is a compromise. What may be good for the plant may not be the best for the animal and, conversely, what may be good for the animal may not be the best for the pasture. This is why it is extremely important to identify, early on, what the management objectives are for the enterprise.

Source: Emmick, D.L. and D.G. Fox. 1993. Prescribed Grazing Management to Improve Pasture Productivity in New York. P12-14. USDA-Soil Conservation Service and Cornell University. Syracuse, N.Y. Reference File (AGR) Pasture.